

Application No. 09/901,581
Office Action dated October 14, 2005
Amendment After Final Rejection dated December 14, 2005

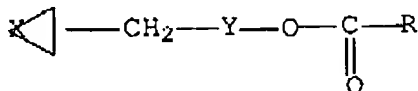
AMENDMENTS TO THE CLAIMS:

Kindly replace the previous claim set with the claim set which appears below in which Claims 1, 13 and 14 have been amended to read as follows:

1. (Currently Amended) A thermosetting resin composition, reaction products of which are controllably degradable, said composition comprising:

- (a) an epoxy resin component;
- (b) a curing agent component;
- (c) a coreactant, at least a portion of which

is represented by the following structure:



wherein X represents the heteroatoms, oxygen or sulfur; Y may or may not be present, and when present represents alkyl, alkenyl, or aryl; and R represents alkyl, alkenyl, or aryl; and

(d) a stabilizer comprising a cyanate ester,
wherein when exposed to temperature conditions in excess of those used to cure the composition, the reaction products soften and loose their adhesiveness.

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2. (Withdrawn) The composition of Claim 1, further comprising an inorganic filler component.

3. (Original) The composition of Claim 1, wherein the coreactant comprises glycidyl neodecanoate.

4. (Original) The composition of Claim 1, wherein the cyanate ester is selected from the group consisting of 1,3-dicyanatobenzene; 1,4-dicyanatobenzene; 1,3,5-tricyanatobenzene; 1,3-, 1,4-, 1,6-, 1,8-, 2,6- or 2,7-dicyanatonaphthalene; 1,3,6-tricyanatonaphthalene; 4,4'-dicyanato-biphenyl; bis(4-cyanatophenyl)methane; 2,2-bis(3,5-dichloro-4-cyanatophenyl)propane; 2,2-bis(3,5-dibromo-4-dicyanatophenyl)propane; bis(4-cyanatophenyl)ether; bis(4-cyanatophenyl)sulfide; 2,2-bis(4-cyanatophenyl)propane; tris(4-cyanatophenyl)-phosphite; tris(4-cyanatophenyl)phosphate; bis(3-chloro-4-cyanatophenyl)methane; cyanated novolac; and cyanated bisphenol-terminated polycarbonate or other thermoplastic oligomer.

5. (Previously Presented) The composition of Claim 1, wherein the epoxy resin component is selected from the group consisting of polyepoxy compounds based on aromatic amines and

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epichlorohydrin, N-diglycidyl-4-aminophenyl glycidyl ether, N,N,N',N'-tetraglycidyl-1,3-propylene bis-4-aminobenzoate, polyglycidyl derivatives of phenolic compounds, polyepoxides prepared from polyols, polyglycidyl derivatives of phenol-formaldehyde novolacs, polyglycidyl adducts of amines, polyglycidyl adducts of aminoalcohols, polyglycidyl adducts of polycarboxylic acids, and combinations thereof.

6. (Original) The composition of Claim 1, wherein the epoxy resin component is present in the composition in an amount within the range of about 20% by weight to about 80% by weight, based on the total weight of the composition.

7. (Original) The composition of Claim 1, wherein the curing agent component is a member selected from the group consisting of anhydride compounds, aza compounds, amine compounds, amide compounds, imidazole compounds, modified amine compounds, modified imidazole compounds, cationic cure initiators and latent cationic cure initiators.

8. (Withdrawn) The composition of Claim 7, wherein the amine compounds are selected from the group consisting of

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aliphatic polyamines, aromatic polyamines, alicyclic polyamines
and combinations thereof.

9. (Withdrawn) The composition of Claim 7, wherein the
amine compounds are selected from the group consisting of
diethylenetriamine, triethylenetetramine,
diethylaminopropylamine, xylenediamine, diaminodiphenylamine,
isophoronediamine, menthenediamine and combinations thereof.

10. (Original) The composition of Claim 7, wherein
derivatives of the amine compounds include epoxy amine additives
formed by the addition of an amine compound to an epoxy
compound.

11. (Previously Presented) The composition of Claim
7, wherein derivatives of the amine compounds include aliphatic
amines in powder form having a light yellow color, whose
particle size is 90% less than or equal to 10 um and having a
melting point of 145-172°F.

12. (Original) The composition of Claim 7, wherein
derivatives of the amine compounds have an amine value of 260
(mg KOH/gram) and rapid reactivity above a temperature of 158°F.

PAGE 8/21 * RCVD AT 12/14/2005 4:56:02 PM [Eastern Standard Time] * SVR:USPTO-EFXRF-6/25 * DNIS:2738300 * CSID:860 571 5028 * DURATION (mm-ss):06:38

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wherein the epoxy resin component is present in an amount in the range of from about 25 to about 75 percent by weight, the curing agent is an aliphatic amine in powder form having a light yellow color, whose particle size is 90% less than or equal to 10 μm and having a melting point of 145-172°F and is present in an amount within the range of from about 0.5 to about 5 percent by weight, the coreactant is glycidyl neodecanoate and is present in an amount of about 0.5 to about 5% by weight, and the stabilizer is a cyanate ester and is present in an amount of about 0.5 to about 5% by weight, based on the total composition.

16. (Original) The composition of Claim 1, which is capable of sealing underfilling between a semiconductor device including a semiconductor chip mounted on a carrier substrate and a circuit board to which said semiconductor device is electrically connected.

17. (Original) Reaction products of the compositions in accordance with any one of Claims 1-16.

18. (Previously Presented) The composition of Claim 5, wherein the epoxy resin component is selected from the group

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consisting of bisphenol-A epoxy resin and bisphenol-F epoxy resin.

19. (Previously Presented) The composition of Claim 5, wherein the epoxy resin component is selected from the group consisting of phenol novolac epoxy resin, cresol novolac epoxy resin and bisphenol-A epoxy novolacs.